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LEFT, STEVEN N				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary

Application No.

10/761,008

Applicant(s)

BAKER ET AL.

Examiner

STEVEN LEFF

Art Unit

1782

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/20/10.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-29 and 37-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-29 and 37-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 2/5/10, 5/20/10.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 1-11, 13-29 and 37-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - With respect to claims 1 and 27 the phrase "providing a food product that has a stable consistency and is in a flowing state" is rejected since it is unclear if the food product has a stable consistency with respect to the consistency throughout being the same, i.e. pudding prior to printing, if the phrase is with respect to the food product which has a stable consistency with respect to the consistency throughout being the same after printing as a result of reducing flowing, if the phrase is with respect to the consistency being stable as a result of a single material, i.e. no inclusions such as nuts, chips, or if the phrase is with respect to a food product which regardless of processing parameters, maintains or only has a single or "stable consistency".
 - The phrase "at room temperature" in claims 14 and 17 is rejected, as it is a relative term, which renders the claim indefinite. The term "at room temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to what is encompassed by the phrase "at room temperature"; it is unclear as to what degree of difference is encompassed by this phrase, since a walk-in freezer would have one room temperature which is different from the room temperature of a heated environment.
 - The phrase "flash freezer" in claim 46 is rejected, since it is unclear what would constitute a "flash freezer" i.e. with respect to a specific type of freezing such cryogenic, or if the phrase is with respect to a desired amount of time the freezing takes place in. Thus the phrase "flash freezer" is further rejected since the phrase is a relative term, which renders the claim indefinite. The term "flash freezer" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and

one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to what is encompassed by the phrase “flash freezer”; it is unclear as to what degree of difference is encompassed by this phrase, if not a “flash freezer”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 1-3, 6-7, 9-11, 13-27 and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shastry et al. (WO 2004/003089) in view of in view of Shastry et al. (7029112).

Shastry et al. teaches providing a food product that has a stable consistently (par. 0019, par. 0056) and is in a flowing state, such as “puddings” and “creams”, in addition to Shastry et al. teaching “almost any edible surface to be printed” (par. 0056) including ice cream which melts at temperatures of greater than 32F. Shastry et al. further teaches providing a piezoelectric inkjet printer (par. 0017) capable of ejecting a series of drops for deposition on a flowing substrate, in a predetermined pattern (par. 0017) and ejecting the jettable media on a surface of the food product while the food product is in a flowing state (par. 0017, par. 0019), and “reducing diffusion of the jettable media in the food product” since Shastry et al. teach ink which solidifies upon contact with the food

substrate, in addition to teaching that the image is at a resolution of 50 dpi or more (par. 0054).

In addition, Shastry et al. teach that the media has a viscosity which is greater than a viscosity of the food product at a temperature of the food product during application (par. 0031), heating the media to a temperature of about 63C to about 180C (par. 0041) such that the media has a viscosity of 5-20 cps. when ejected (par. 0041) that the media has a water soluble carrier (par. 0033) and more specifically that the media comprises an alcohol, acid, water or combinations thereof (par. 0033). Shastry et al. further teach that the media comprises predominantly a fat or a wax which is solid at room temperature (par. 0030), that the media is insoluble in the food product (par. 0031), that the media comprises a visible dye additive (par. 0023), a flavor additive (par. 0038), and that the food product comprises a dairy product such as ice cream (par. 0019).

However Shastry et al. is silent with respect to reducing the flowing of the food product, or teaching that the food product has a viscosity of 50,000 cps. or less or more specifically 50-110 cps. prior to decreasing the flowing, a temperature of 40F to 120F, the media has a drop volume of 200pL or 120pL or less, that the media has a viscosity of about 70-100 cps. at room temperature, that the food product is in the temperature range of about 40 to 120F while ejecting the media, or that the food product is a coffee drink including a dairy product.

Shastry (7029112) teaches ink-jet printing on surface modified edibles which may be soft thus more amenable to printing (par. 0012). More specifically Shastry teaches that the surface chemistry of the ink and the surface of the edible piece to be printed plays a role in determining the final image quality and resolution. The temperature of the substrate, or of the ink, can be modified since temperature modulation will affect the surface energy properties of the ink and edible surface, with lower temperatures lowering surface energy and reducing the tendency of an ink to spread across the surface of the edible substrate. Applying very low humidity gas or air will enhance the drying rate of the ink droplets. Optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture (par. 0041).

Thus since both teach ink-jet printing on soft surfaces, since both recognize providing optimal characteristics such as surface tension so that the media will not run or

bleed with respect to the flowable surface (par. 0049), one of ordinary skill in the art would have been motivated to combine the teachings and taught reducing the flowing of the food product since Shastry (7029112) teaches that lower temperatures lowers surface energy and reduces the tendency of an ink to spread across the surface of the edible substrate (par. 0041) and since the optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture as is further taught by Shastry (7029112, par. 0041).

Therefore, although Shastry et al. ('3089) is silent to reducing the flowing of the food product, or freezing the product such that the media on the food has a lateral image bleed of about 10% or less after 30 minutes, Shastry et al. does teach printing of consumer products such as pudding, creams and ice cream (par. 0017). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to teach reducing the flowing of the product after printing, in the instant case by lowering the temperature of the surface as taught by '112, with respect to flowing products such as puddings and creams, since lower temperatures lowers surface energy and reduces the tendency of an ink to spread across the surface of the edible substrate (par. 0041) and since the optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture as is further taught by Shastry (7029112, par. 0041) thus preventing the media from "running" or "bleeding" as is further taught by '112.

With respect to ice cream which is taught by '3089, since lower temperatures lowers surface energy and reduces the tendency of an ink to spread across the surface of the edible substrate (par. 0041) as taught by '112 and since the optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture as is further taught by Shastry (7029112, par. 0041) and further since keeping the ice cream from melting flows logically thus yielding predictable results to one of ordinary skill in the art at the time of the invention. It would have further been obvious to teach reducing flowing of the food product by lower the temperature of the surface as taught by '112 in order to ensure that the desired image resolution is achieved as is desired by both '112 and '3089 and maintained due to solidifying the edible thereby maintaining the resolution of the image thus preventing the ice cream from melting which would cause the ink to "run" or "bleed".

In addition, Shastry et al. is silent with respect to teaching that the food product has a viscosity of 50,000 cps. or less or more specifically 50-110 cps. prior to decreasing the gravity flowability, , that the media has a drop volume of 200pL or 120pL or less, that the media has a viscosity of about 70-100 cps. at room temperature, or that the food product is in the temperature range of about 40 to 120F while ejecting the media, or that the food product is a coffee drink including a dairy product.

It is initially noted that although Shastry et al do not teach a specific drop volume of 200pL or 120pL or less or that the media has a viscosity of about 70-100 cps. at room temperature, Shastry et al. does teach the use of a drop on demand ink jet printer for producing images on edible substrates where the resolution of the image should be greater than 50 dpi. up to 300 dpi., (par. 0054) in addition to the use of fats and waxes for the purpose of achieving the image qualities on flowable edibles by phase change jettable media. Therefore, since the referenced printing means and resolution meet those of the instant claims, and since Shastry et al. teach a phase changing jettable media which solidifies on the flowable food for achieving the desired image resolution and due to the fact that resolution is a direct result of drop size, and further since Shastry et al. specifically teaches providing optimal media characteristics such as surface tension so that the media will not run or bleed with respect to the flowable surface (par. 0049), it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to teach a specific drop volume of 200pL or 120pL or less or that the media has a viscosity of about 70-100 cps. at room temperature since these are properties which affect the desired image resolution, which is positively taught by Shastry et al. and thus one of ordinary skill in the art would not expect the instant claims to perform differently than the prior art method, thus the claimed method is not patentably distinct from the prior art method (See MPEP 2144.04 IV A).

Further, since the degree that an image bleeds is dependant upon different factors, such as the surface characteristics of a soft substrate and the media used as is taught by Shastry et al. '3089 and '112, it would have further been obvious to one of ordinary skill in the art at the time of the invention by the applicant to adjust the specific working parameters with respect to the media and the specific edible such as a food product which has a viscosity of 50,000 cps. or less or more specifically 50-110 cps. prior to decreasing the gravity flowability, for the purpose of not only producing a high

resolution image on an edible substrate of the consumer's choice as is taught by Shastry et al., but to further provide a method of printing which is capable of not only printing on viscous substrates which are flowable but further on relatively minimally viscous substrates which are flowable since the provision of providing an image on almost any edible substrate, as is taught by Shastry et al. (par. 0055) is a desirable feature, which would further enhance the edibles overall appearance thereby further increasing sales.

In addition although Shastry et al. is silent with respect to all of the processing variables desired with respect to the edible substrate and the ink rheology, Shastry et al. does positively teach a method of printing which is capable of not only printing on viscous substrates which are flowable but further on relatively minimally viscous substrates which are flowable and thus "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation," (see MPEP 2144.05 IIA), as the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages" (see MPEP 2144.05 IIA) for optimizing and achieving the desired resolution, with respect to a specific food item at a specific desired consistency as is taught by Shastry et al. (pg. 20) since '112 specifically teaches that optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture (par. 0041).

Further since Shastry et al. teach ink jet printing for the purpose of not only producing a high resolution image on an edible substrate of the consumer's choice, but to further provide a method of printing which is capable of not only printing on viscous substrates but further on relatively minimally viscous substrates it would have further been obvious to one of ordinary skill in the art at the time of the invention by the applicant to teach that the desired product to be printed is a coffee drink including a dairy product since the provision of providing an image on almost any edible substrate, as is taught by Shastry et al. (par. 0055) is a desirable feature, which would further enhance the edibles overall appearance thereby further increasing sales.

- Claims 4-5, 28-29, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shastry et al. (WO 2004/003089) in view of in view of Shastry et al. (7029112) as applied above and in further view of in view of Soehnlen et al. (6355290).

Shastry '3089 and '112 are taken as above however both are silent to cooling the food product to about 32F or less, enclosing the food product in a container after ejecting the media, or prior to reducing diffusion of the jettable media, transporting the food product in the container to a post-processing station to reduce diffusion of the media in the product which is a flash freezer

Soehnlen et al. teach an ice cream manufacturing and packaging process (abstract). More specifically Soehnlen et al. teach the commercial making of ice cream starts with conventionally, liquid ingredients, including dairy products, placed in a mix tank 10 and blended (col. 11 lines 31-40). The blended liquids are conveyed to a cooler 12 where mixing continues and the mixed ingredients are chilled. The chilled mixed ingredients become more viscous and take on the consistency of soft ice cream. This material is conveyed by a pump 14 through an ingredient feed 16 to a package filler 18. Two elements come together at the package filler 18. These elements are: the soft ice cream product and the package (col. 12 lines 12-14). Soehnlen et al. continue by transporting the food product in the container to a post-processing station to reduce diffusion of the media in the product which is a flash freeze (col. 14 lines 18-28) and enclosing the food product in a container (col. 12 lines 25-29).

Therefore although Shastry '3089 and '112 are silent with respect to enclosing the food product in a container after ejecting the media, or prior to reducing diffusion of the jettable media, or transporting the food product in the container to a post-processing station to reduce diffusion of the media in the product which is a flash freezer, Shastry et al. does teach printing of consumer products such as pudding, creams and ice cream (par. 0017) with ink which solidifies upon contact. Thus one of ordinary skill in the art would have been motivated to combine the teachings and taught packaging steps with respect to the consumer products as taught by Shastry et al. and further to have taught transporting the food product in the container to a post-processing station to reduce diffusion of the media in the product which is a flash freezer in order to contain the edible substrate in a container after the application of the image for shipping and/or transporting purposes and further to protect the edible substrate from the environment since in the instance of ice

cream the image will "run" or "bleed" as the ice cream melts and the viscosity thereof increases.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to have provided a container prior to or after printing for protecting the edible substrate after the image has been applied for packaging purposes.

In addition, although Shastry '3089 and '112 are silent with respect to providing a container prior to or after printing for protecting the edible substrate after the image is applied, since it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom," (see MPEP 2144.) and since Shastry et al. '3089 teach pudding, cream which are flowing product and ice cream where if not kept at 32F ice cream will melt where flash freezing as taught by Soehnlen et al. would further provide the advantage of solidifying the edible thereby maintaining the resolution of the image since the melting of ice cream would cause the ink to "run" or "bleed". Thus it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to teach "reducing diffusion" of the media with respect to the ice cream as taught by Shastry et al. by reducing the temperature of the surface as taught by '112, by freezing thus not only preventing the media from "running" or "bleeding" but further since keeping the ice cream from melting flows logically thus yielding predictable results to one of ordinary skill in the art at the time of the invention in order to ensure that the desired image resolution is achieved as is desired by Shastry et al. '3089 with respect to an unspecified flowable food item.

- Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shastry et al. (WO 2004/003089) in view of in view of Shastry et al. (7029112) as applied above and in further view of in view of Willcocks et al. (WO 01/94116).

Shastry '3089 and '112 are taken as above however neither teaches the use of a drop on demand ink jet printer.

Willcocks et al. teach a method for printing high-resolution images on an edible substrate. The printing of the image on the edible substrate is accomplished with the use

of a drop on demand ink-jet printer that uses food grade ink and is capable of obtaining resolution of greater than 200 dpi (pg. 6 line 21+).

Thus, although Shastry '3089, or '112 teach the use of a drop on demand ink jet printer both do teach high resolution printing. Thus since the provision of providing an image on an edible substrate is a desirable feature, which would further enhance the substrate's overall appearance, one of ordinary skill in the art would have been motivated to combine the teaching of Willcocks et al., '3089, and '112 in order to produce an edible substrate with an image using a drop on demand ink jet printer, since MPEP 2144.07 states that the selection of a known process based on its suitability for its intended use supports a prima facie obviousness determination.

Thus the selection and use of a particular printer known in the art would not have involved an inventive step and therefore would have been obvious to one of ordinary skill in the art to utilize, based upon the ink composition, the desired image and substrate utilized thereby subsequently increasing the number of edible substrates that the image can be applied to.

Response to Arguments

With respect to applicants argument that providing Shastry '3089 is silent to reducing the flowing of the product, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986), where in the instant case '112 is taken to teach reducing the temperature of a flowing surface and the advantage provided, specifically, that lower temperatures lowers surface energy and reduces the tendency of an ink to spread across the surface of the edible substrate (par. 0041) and since the optimization of these parameters would be within the skill of one having ordinary skill in the art of confectionery manufacture as is further taught by Shastry (7029112, par. 0041).

With respect to the phrase "at room temperature" which is rejected as a relative term, which renders the claim indefinite. It is unclear as to what degree of difference is encompassed by this phrase, since a walk-in freezer would have one room temperature which is different from the room temperature of a heated environment. With respect to applicant's wikipedia definition of "room temperature" it is noted that the definition is specific to a range for humans, where the instant claims are not specific to common

human room temperatures. In addition the definition states “though climate may acclimatize people to higher or lower temperatures” thus further expanding the undefined temperature range.

With respect to the phrase “flash freezer” and applicants assertion that the phrase is well known in the art, it is noted that applicant relies on the definition provided with respect to “flash freezing” which is not currently claimed since the claims states the phrase “flash freezer” and thus it is unclear what would constitute a “flash freezer” i.e. with respect to a specific type of freezing such cryogenic, or if the phrase is with respect to a desired amount of time the freezing takes place in. Thus the phrase “flash freezer” is further rejected since the phrase is a relative term, which renders the claim indefinite. The term “flash freezer” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear as to what is encompassed by the phrase “flash freezer”; it is unclear as to what degree of difference is encompassed by this phrase, if not a “flash freezer”.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Leff whose telephone number is (571) 272-6527. The examiner can normally be reached on Mon-Fri 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1782

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Drew E Becker/

Primary Examiner, Art Unit 1782

/Steven Leff/

Examiner, Art Unit 1794